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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,087	09/26/2001	Yoshihiko Shiozaki	PW 027 7016 H7523US	2454

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EXAMINER

BATTAGLIA, MICHAEL V

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 04/07/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/964,087

Applicant(s)

SHIOZAKI ET AL.

Examiner

Michael V Battaglia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

2. Figures 3-5 should be designated by a legend such as –Prior Art– because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Citation of Relevant Prior Art*

5. Shimizu (US 6,359,847) discloses an optical recording and reproducing apparatus that maintains laser power at a target read level according to a difference between a detected read level and the target read level in a read mode and alternates laser power between a write power level and a bottom power level during a write mode, wherein the write and bottom laser powers are

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maintained at respective target powers by comparing detected levels to the respective target power levels and the detected read power is sampled and held immediately before the read mode is switched to a write mode (Fig. 10). Miyashita et al (US 5,949,747) discloses an optical recording and reproducing apparatus that determines optimum bottom and write power levels by comparing detected power levels to target power levels (Fig. 12). Kumagai (US 6,594,210) discloses a sample and hold section that samples a detected read level immediately before a read mode is switched to a write mode (Figs. 3A and 3B). Yoshida et al (US 6,292,448) discloses sampling a reproduced RF signal only when write data is low and holds the sampled signal while the write data is high (Col. 16). Yamasaki et al (US 5,151,893) discloses sampling a reproduced signal immediately before a switch from read to write mode and holding the sampled value while in the write mode (Fig. 2).

***Allowable Subject Matter***

6. Claims 1-4 are allowable over the prior art of record.

In regard to claim 1, none of the references of record alone or in combination disclose or suggest an optical disk recording and reproducing apparatus being operative in a read mode for controlling a laser driver to maintain a laser power at a target read level so as to read a signal from an optical disk, and being operative in a write mode for controlling the laser driver to alternate the laser power between a target write level and a target bottom level comparative with the target read level so as to write a signal into the optical disk, the apparatus comprising: a first detector being operative in the read mode for detecting a read level of the laser power, and being operative in the write mode for detecting a bottom level of the laser power; a first controller being operative in the read mode for outputting a read level control signal according to a difference between the detected read level and the target read level, and being operative in the write mode for outputting a bottom

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level control signal according to a difference between the detected bottom level and the target bottom level; a second detector operative in the write mode for detecting a write level of the laser power; a second controller operative in the write mode for outputting a write level control signal according to a difference between the detected write level and the target write level; and a third controller being operative in the read mode for providing the read level control signal to the laser driver, and being operative in the write mode for alternately providing the write level control signal and the bottom level control signal to the laser driver in accordance with the signal to be written into the optical disk, wherein the first controller comprises a first sample & hold section that samples the read level control signal immediately before the read mode is switched to the write mode and that holds the sampled read level control signal after the read mode is switched to the write mode, **a second sample & hold section that samples the detected bottom level immediately after the read mode is switched to the write mode and then holds the sampled bottom level, and a control section that outputs the sampled and held read level control signal as a bottom level control signal immediately after the read mode is switched to the write mode, and subsequently outputs another bottom level control signal according to a difference between the detected bottom level and the target bottom level which is given in the form of the sampled and held bottom level.**

In regard to claim 4, none of the references of record alone or in combination disclose or suggest a method of controlling an optical recording and reproducing apparatus which is operative in a read mode for controlling a laser driver to maintain a laser power at a target read level so as to read a signal from an optical disk, and which is operative in a write mode for controlling the laser driver to alternate the laser power between a target write level and a target bottom level comparative with the target read level so as to write a signal into the optical disk, the method comprising the steps of: detecting a read level of the laser power in the read mode to generate a

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read level control signal according to a difference between the detected read level and the target read level; detecting a write level and a bottom level of the laser power in the write mode to generate a write level control signal according to a difference between the detected write level and the target write level, and to generate a bottom level control signal according to a difference between the detected bottom level of the laser power and the target bottom level; **dividing a period of the write mode into a hold period immediately after the read mode is switched to the write mode and a servo period subsequent to the hold period**; providing the read level control signal, which is sampled and held immediately before the read mode is switched to the write mode, to the laser driver in the hold period; **sampling a bottom level detected in the hold period; and setting the sampled bottom level to the target bottom level for the servo period.**

### *Conclusion*

7. This application is in condition for allowance except for the formal matters noted above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

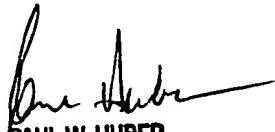
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Battaglia

  
PAUL W. HUBER  
PRIMARY EXAMINER